WHAT IS CLAIMED IS:

1. A method of modulating at least one photosensitive trait in a plant comprising altering the level of phytochrome and flowering time 1 (*PFT1*) protein in a plant.

2. The method of claim 1, wherein the photosensitive trait is flowering time, shade avoidance syndrome, stem elongation or leaf number.

3. The method of claim 1, wherein said *PFT1* protein has the amino acid sequence set forth in SEQ ID NO. 3 or conservative variants thereof.

4. The method of claim 1, wherein the level of *PFT1* protein is altered by producing a plant having an expression vector having a gene encoding the *PFT1* protein.

5. The method of claim 4, wherein the gene encoding the *PFT1* protein has a nucleotide sequence that encodes the amino acid sequence set forth in SEQ ID NO. 3 or conservative variants thereof.

6. The method of claim 4, wherein the gene encoding the PFT1 protein has the nucleotide sequence set forth in SEQ ID NO. 2.

7. A method of modulating a photosensitive trait in a plant, comprising:

transforming a plant cell with an expression vector comprising a gene that encodes a *PFT1* protein; and

growing said plant cell into a plant under conditions that allow the expression of the *PFT1* protein thereby modulating a photosensitive trait.

8. The method of claim 7, wherein the *PFT1* protein is overexpressed in said plant.

9. The method of claim 7, wherein the *PFT1* protein is encoded by a gene comprising the nucleotide sequence shown in SEQ ID NO: 2.

10. The method of claim 7, wherein the expression vector comprises a promoter selected from the group comprising a constitutive promoter and an inducible promoter.

11. The method of claim 7, wherein the plant is selected from the group consisting of: wheat, barley, rye, oat, flax, millet, corn, tomato, rice and tobacco plants.

12. The method of claim 7, wherein the photosensitive trait is a trait selected from the group consisting of: flowering time, leaf number, stem elongation, and red/far red response.

13. The method of claim 13, wherein the photosensitive trait is flowering time, and said flowering time is decreased.

14. A method of modulating a photosensitive trait in a plant comprising:

contacting a plant cell, or plant, with an inhibitor of a *PFT1* gene such that expression of the PFT1 gene is reduced compared to a plant not contacted with the inhibitor.

15. The method of claim 14, wherein the *PFT1* gene comprises the nucleotide sequence shown in SEQ ID NO: 2.

16. The method of claim 14, wherein the inhibitor comprises an expression vector expressing a protein that inhibits expression of the *PFT1* gene.

17. The method of claim 14, wherein the plant is selected from the group consisting of: wheat, barley, rye, oat, flax, millet, corn, tomato, rice and tobacco plants.

18. The method of claim 14, wherein the inhibitor comprises an antisense molecule that inhibits the *PFT1* gene.

19. The method of claim 14, wherein inhibitor comprises a short interfering RNA (siRNA) configured to inhibit the production of a *PFT1* gene product.

20. The method of claim 14, wherein the photosensitive trait is a trait selected from the group consisting of: flowering time, leaf number, stem elongation, shade avoidance syndrome and red/far red response.

21. The method of claim 20, wherein the photosensitive trait is flowering time, and said flowering time is increased.

22. The method of claim 20, wherein the photosensitive trait is shade avoidance syndrome, and said plant exhibits a depressed shade avoidance syndrome.

23. A transgenic plant having at least one modulated photosensitive trait as compared to a wild-type plant, wherein the transgenic plant comprises a recombinant expression vector that expresses a nucleic acid encoding a *PFT1* gene.

24. The transgenic plant of claim 23, wherein the *PFT1* gene is overexpressed.

25. A recombinant nucleic acid sequence comprising SEQ ID NO:2.

26. A recombinant nucleic acid sequence comprising a nucleotide sequence encoding SEQ ID NO:3.

27. A recombinant nucleic acid sequence hybridizing to SEQ ID NO:2 under stringent wash conditions.

28. A recombinant nucleic sequence comprising a nucleotide sequence encoding a protein at least 45% to SEQ ID NO:3.

29. A transgenic plant comprises a recombinant expression vector that expresses the recombinant nucleic acid sequence of claims 25, 26, 27, or 28.

30. The transgenic plant of claim 29, wherein the recombinant nucleic acid sequence is overexpressed.

31. The transgenic plant of claim 28, wherein the recombinant nucleic acid sequence is operably linked to a promoter.

32. The transgenic plant of claim 31, wherein the promoter is selected from the group comprising a constitutive promoter and an inducible promoter.

33. The transgenic plant of claim 29, wherein the plant is selected from the group consisting of: wheat, barley, rye, oat, flax, millet, corn, tomato, rice and tobacco plants.

34. A seed derived from the transgenic plant of claim 29.

35. A plant tissue derived from the transgenic plant of claim 29.

36. The plant tissue of claim 35, wherein said tissue is a flower.

37. An isolated protein comprising SEQ ID NO:3.

38. A recombinant nucleic acid molecule encoding a *PFT1* protein produced from the method comprising:

providing nuclear material from a plant; and

isolating from said nuclear material a recombinant nucleic acid molecule encoding a *PFT1* protein.